

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-16 and 18-45 are pending in the present application. Claim 17 is canceled, Claims 1-9, 16, 18-21, 23-34, and 42-44 are amended, and Claim 45 is added by the present amendment. Claims 10-15 and 35-41 stand withdrawn in response to a previous restriction requirement.

In the outstanding Office Action, Claims 4, 6, 18, 19, and 21 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1-9 and 42 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,653,647 to Hashimoto in view of U.S. Patent No. 5,402,895 to Mikkelsen et al. (herein "Mikkelsen"); Claim 16 was rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Mikkelsen and U.S. Patent No. 6,256,407 B1 to Mennie et al. ("Mennie"); Claims 26-34 and 44 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Mikkelsen and U.S. Patent No. 5,465,821 to Akioka; Claims 19, 20, and 22-25 were allowed; and Claims 17, 18, and 43 were indicated as allowable if rewritten in independent form.

Applicants thank the Examiner for the indication of allowable subject matter. Accordingly, new Claim 45 recites the features of original Claim 42 and the features of Claim 43, which was indicated as allowable if rewritten in independent form. Thus, new Claim 45 is believed to be allowable.

Further, Claim 16 is amended to recite the features of Claim 17, which was indicated as allowable and which is accordingly canceled. Accordingly, it is respectfully submitted that amended independent Claim 16 and claims depending therefrom are allowable, and that the rejection of Claim 16 under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Mikkelsen and Mennie is therefore moot.

Regarding the rejection of Claims under 35 U.S.C. § 112, second paragraph, Claims 4, 6, 18, 19, and 21 are amended in light of suggestions in the outstanding Office Action. Accordingly, it is respectfully requested that rejection be withdrawn.

Claims 1-9 and 42 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Mikkelsen. That rejection is respectfully traversed.

Amended independent Claim 1 is directed to a paper identification counter that includes a counter body, a hopper which is formed to the counter body and to which papers to be identified and counted are fed, and a paper conveyance unit including a conveyance passage along which the papers from the hopper are conveyed one by one in a direction of a short width side of the papers. The paper conveyance unit includes a delivery roller and a reverse feed roller. The paper identification counter also includes a paper identification unit disposed on a way of the conveyance passage for identifying and counting the papers, a stacker for stacking the papers which are delivered from the conveyance passage and then identified and counted, and a pocket for collecting papers to be rejected, which are not identified and counted. The conveyance passage includes a first U-shaped conveyance region along an outer periphery of the delivery roller and a second U-shaped conveyance region along an outer periphery of the reverse feed roller on a way between the hopper and the stacker.

In a non-limiting example, Figure 4 illustrates a paper identification counter including a paper conveyance unit with a delivery roller 53 and a reverse feed roller 70. Papers are conveyed from a hopper 15 through a first U-shaped conveyance region by delivery roller 53 into a descending rectilinear conveyance passage 48. Next, papers are conveyed past counterfeit identification sensor 66 and paper identification unit 63, and past a second U-shaped conveyance region that includes reverse feed drive roller 70. From there, papers are

conveyed to either a stacker 21 for stacking the papers that are identified and counted, or to a pocket 20 for collecting rejected papers that are not identified and counted.

This arrangement advantageously allows a paper identification counter to have a compact desktop size and still ensure rapid identification and counting of papers such as currency notes.¹ In addition, the identification counter of the claimed invention is particularly applicable as a desktop type counter and includes one stacker specifically for storing identified and counted papers and a different output for those papers that are not identified and counted.² As illustrated in the embodiment of Figure 4, the reject conveyance passage diverges from the downstream conveyance passage region and leads to the pocket, and due to the provision of a separate stacker and pocket, currency notes that are not identified and counted can be directed to the pocket for separate collection. Further, the papers to be counted are directed to the stacker and the papers to be rejected are directed to the pocket so they are not confused.

Applicants respectfully submit that the teachings of the combination of Hashimoto and Mikkelsen do not teach or suggest a paper identification counter including a separate pocket for collecting papers to be rejected, which are not identified and counted. Further, applicants respectfully note that the inventions of Hashimoto and Mikkelsen each disclose a so-called "sorter," whereas the present invention relates to a paper identification counter, which is different from a sorter.

First, applicants respectfully submit that Hashimoto fails to teach or suggest a separate pocket for collecting papers to be rejected, which are not identified and counted. Hashimoto discloses an apparatus for classifying paper money in accordance with its kind or type and the apparatus includes two stackers having the same shape. Thus, the apparatus of

¹ Specification at page 5, lines 8-12.

² Specification at page 24, lines 13-18.

Hashimoto is a paper sorter, which is different than the paper identification counter of the claimed invention. Further, it is respectfully submitted that Hashimoto does not disclose a pocket element for storing papers that are not identified and not counted, as in the claimed invention. As illustrated in Figure 2, Hashimoto discloses counters C2 and C3 for counting the papers deposited in first pocket 5 and second pocket 6. Thus, Hashimoto fails to disclose a pocket for storing rejected papers that are not counted.

In addition, applicants respectfully submit that Mikkelsen also does not teach or suggest a separate pocket for collecting rejected papers which are not identified and counted. Mikkelsen discloses a system for placing currency notes that face in one direction in a first output tray and for placing currency notes facing another direction in a second currency tray. Thus, Mikkelsen teaches a device that includes two stackers of an identical shape which are merely arranged vertically. In addition, as can be seen from Figure 1 of Mikkelsen, the device has a structure including many dead spaces at hopper upper portion, lower side of a feed roller, stacker portion, and so on. According to such arrangement, the sorter device of the Mikkelsen reference is not a compact desktop type counter, and in addition, a U-shaped path in the Mikkelsen reference is not effectively arranged as in the present invention.

Thus, applicants respectfully submit that the combined teachings of Hashimoto and Mikkelsen do not teach or suggest “a stacker for stacking the papers which are delivered from the conveyance passage and then identified and counted; and a pocket for collecting papers to be rejected which are not identified and counted,” as in the amended independent claims.

Accordingly, it is respectfully submitted that independent Claims 1, 8, and 42 and claims depending therefrom are allowable.

Claims 26-34 and 44 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hashimoto in view of Mikkelsen and Akioka. That rejection is respectfully traversed.

Amended independent Claim 26 is directed to a paper identification counter that includes a counter body, a hopper at a top portion of the counter body, a stacker at a front portion of the counter body, and a conveyance passage formed in the counter body so as to extend from the hopper to the stacker. The conveyance passage includes a rectilinear conveyance passage descending from the hopper through a delivery mechanism along a back side of said counter body, a U-shaped curvilinear conveyance passage continuous with the rectilinear conveyance passage disposed at the lower portion on the back side of the counter body, and a downstream conveyance passage extending from the curvilinear conveyance passage up to the stacker. The paper identification counter also includes a paper identification unit disposed along the rectilinear conveyance passage and adapted to perform a paper identification/counting and true-counterfeit discrimination. The paper identification unit includes a line sensor arranged to traverse the conveyance passage and which includes a light emission side line sensor member and a light reception side sensor member. The light emission side line sensor includes a plate-shaped lens member that collimates a light from a spot-like light emission element to form a lens group consisting of a number of lenses that are integrally arrayed in a train with a predetermined pitch.

In a non-limiting example Figures 17-20 shows a line sensor 65. The line sensor 65 includes a light emission side line sensor member 146 and a light reception side sensor member 147. In this example, the light emission side line sensor 146 includes a plate shaped lens member 154 that collimates the light from the spotlight emission elements 153. The lens member forms a lens group consisting of a number of lenses that are integrally arrayed in a train with a predetermined pitch, as noted in the originally filed specification at least at page 65, line 21, to page 66, line 5.

Applicants respectfully submit that both the Hashimoto and Akioka references fail to teach or suggest a true-counterfeit discrimination unit capable of discriminating fine differences, for example, in figures or patterns.

Moreover, applicants respectfully submit that Akioka discloses an identification unit in which sensors are arranged in the form of a line, but fails to teach or suggest the specific arrangement of the line as in the claimed invention.

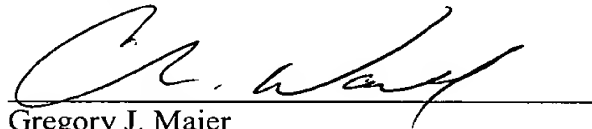
Accordingly, it is respectfully submitted that independent Claim 26 and claims depending therefrom are allowable.

In addition, the specification is amended to correct minor inconsistencies. It is believed no new matter is added.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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